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**Speed Limiting for a Balancing Transporter Accounting for Variations in System Capability**

**Abstract**

A class of transporters for carrying an individual over ground having a surface that may be irregular. Various embodiments have a motorized drive, mounted to the ground-contacting module that causes operation of the transporter in an operating position that is unstable with respect to tipping when the motorized drive arrangement is not powered. Related methods are provided for determining the maximum operating speed of the transporter from measurement of battery parameters and transporter motor current and for limiting the speed of the transporter to maintain stability based on various sets of operationally imposed margins.